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ABSTRACT

"Distance Training" models, when integrated in a more complex framework, such as a "Distance Consulting" model, present specific features and impose a revision of the strategies commonly adopted in distance training experiences. This paper reports on the distance training strategies adopted in a European funded project aimed at defining and developing distance consulting services for Small and Medium-Sized Enterprises (SMEs) located in inland areas of Sicily. The definition of distance consulting in this paper focuses on the systematic use of information and communications technology (ICT) based solutions aimed at supporting enterprises; specifically, the systematic approach foresees the integration of ICT based information, training and communication services, which--in the whole--allow consulting companies to give a continuous support to their customers with cost effective solutions, activating new kinds of consulting based on specific ICT features. A distance consulting environment has been developed by integrating telematic tools which allow the consulting center and the enterprises to, respectively, develop and access both "Synchronous" and "Asynchronous" consulting and training activities. (Author/AEF)

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Distance Training as part of a Distance Consulting solution

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Abstract: *Distance Training* models, when integrated in a more complex framework, such as a *Distance Consulting* model, present specific features and impose a revision of the strategies commonly adopted in distance training experiences. In this paper we report on the distance training strategies adopted in an European funded project aimed at defining and developing Distance Consulting services for SME's located in inland areas of Sicily. A distance consulting environment has been developed by integrating telematic tools which allow the consulting center and the enterprises to, respectively, develop and access both *Synchronous* and *Asynchronous* consulting and training activities.

Introduction

The continuous and rapid changes in the economical and technological factors behind the Information Society (development of the net-economy, the globalization of businesses, the macro changes in industrial and market structures, and so on) represent one of the most pressing challenges for Enterprises. Specifically, by looking at the New Economy sector, new terms appear everyday in order to describe how the traditional business activities are more and more moving towards ICT-based solution: *eWork*, *eBusiness*, *eCommerce*, *Digital* Economy, *Global Market* are only a few examples of this new emerging world.

However enterprises, especially Small and Medium-Sized Enterprises (SMEs) in Europe, still need strong support in order to cope with the challenges raised by ICT and exploit the potentials offered by them. In particular, training and re-qualification is essential for enterprises for affording a constant adaptation and modification of their businesses and securing their competitive market position; therefore, training concepts should be part of the culture of any company. At the same time, accessing training modules is still considered by SMEs a costly and time-consuming process, which is very difficult to conciliate with production timetables; in addition, there is not a strong culture of retraining and lifelong learning amongst SMEs. *Distance Training* shows huge potential as an effective solution to the needs of training and re-qualification in SMEs, by overtaking many of the obstacles to the activation of training processes in a company.

Consulting centers are in the right position to promote both the use of ICT in production activities, and specially the culture of training amongst the SMEs. Support to training activities will become a more and more important role of the consulting centers. In addition, the consulting centers themselves can exploit the potentials offered by ICT, and offer *Distance Consulting* services.

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At the Italian National Research Council, we have designed and leaded an experience of *Distance Consulting*, an ICT-based approach to consultancy, which systematically provides companies with information, communication and training services in an effective way. In this paper we analyze in depth the training model that has been adopted in a European funded project, called *SOLARE* (Support On-Line to Regional Enterprises), together with the technological solutions we have developed for the training activities. Because of the strong and systematic integration of the Distance Training model in a more general one (the Distance Consulting model), the training process has shown specific features which have in turn imposed a revision of the strategies commonly adopted in distance training experiences.

The SOLARE project

The SOLARE (Support On-Line to Regional Enterprises) project has been carried out in the framework of the European ADAPT initiative. The main objective of the SOLARE project is allowing a group of SME's located in the inland areas of Sicily to benefit from consulting services through an innovative on-line cooperative environment that has been defined and developed at our Institute. Twenty enterprises have been connected, through telematic channels, to a consulting center, to a technological institute of the Italian National Research Council and to the Department of Economy of the University of Palermo. This network, named the SOLARE *laboratory*, has initially identified needs, constraints and objectives of the project, and then it has monitored the development of the activities of the project.

Starting from the specific needs of the involved enterprises, we have carried out consulting activities through a communication environment based on Information and Communication Technologies (ICT). There is not a generally accepted definition of *Distance Consulting*, and for our purposes we consider it as an ICT-based approach aimed at providing enterprises with information, communication and training services in a systematic way.

The methodology adopted for the SOLARE project starts from the use of a business check-up through which the consultant can understand the techniques of management of each enterprise, its culture, the followed politics, and so on. Actually, the check-up aims at analyzing the main activities of the enterprises: customer management, financial needs management, personnel management, investment decision, information system, and so forth. The analysis of the check-up results provides the consultant with the strengths and the weaknesses of each enterprise involved in the SOLARE project; according to this information, the consultant plans the activities to be carried out in order to support the enterprises in solving their weaknesses and improving their strengths. The intervention is based on a mix of traditional activities, strongly integrated with distance consulting activities which take place through the Net; traditional and distance activities are aimed at acting on the daily work of the entrepreneur. Examples of activities which have been carried out during the SOLARE experience are: seminars on specific topics, production of consulting materials, specific courses on the introduction of new technologies and new management techniques to increase business competitiveness, promotion of the use of multimedia and communication technologies for the acquisition of advanced services.
The distance consulting environment has been developed by integrating telematic tools which allow the consulting center and the enterprises to, respectively, develop and access both *Synchronous* and *Asynchronous* consulting activities.
The first form of activity is based on the use of real-time communication tools to make the different subjects communicate instantly: the consulting company and the entrepreneurs cooperate through a synchronous environment in which it is possible the activation of different work tools: Audio/video tool, Textual communication tool, Resource exchange tool, Whiteboards, Application sharing tool. This technological environment allows the creation of a direct channel of communication between the consulting company and the entrepreneur through which it is possible to co-operate without the need to move from a place to another one. This introduces a high degree of flexibility in the organization of the consulting activities as compared to traditional consulting processes; network-based meetings can be scheduled in order to discuss a specific topic or to arrange the documentation for a project, the complete a marketing plan marketing, and so forth. The software used for the synchronous consultancy activities is MS Net-meeting and its functions for the audio/video transmission, the textual communication, the exchange of resources; the remote control function has been used to guide the enterprises in carrying out specific activities and, more generally, for cooperative work activities.

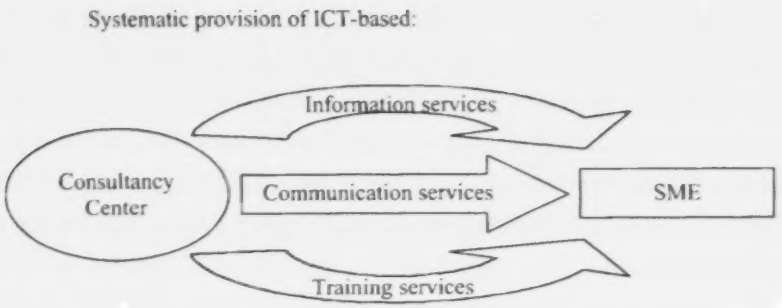

Fig. 1: the Distance Consulting Model: a new kind of cost-effective continuous support to SME's.

The asynchronous consulting activities have been carried out by means of the *Asymmetrix Librarian* system. The system has allowed the organization of the documentation according to areas of interest and their association to group of enterprises with common training needs. The system has provided a high degree of flexibility in planning and organizing information: it has been structured trough specific paths according to the SME's requests and the objectives of the consultancy. The client/server architecture of the system, based on the protocol HTTP and Java, has allowed an effective development of asynchronous consultancy by means of: the setting of enterprises groups; the setting of focus groups on specific topics; the production of consulting and training material and its organization in small modules; the association of the modules to the groups of enterprises; the production of reports on the access to information, for the evaluation of effectiveness of the whole process of consultancy. The enterprises get access to the material in a simple way: by means of a web browser they can go to the home page of the consultancy environment (specific to the group the enterprise belongs to); afterwards, they can: visualize and access the content (information on specific subjects, texts, lessons, seminars,..); stop and restore the lecture; share activities and communicate with other users. The consultancy material has been developed and organized according to the web hypertext model. Access to the material is password protected; we have assigned different work areas to each group of enterprises; in some work areas it is possible for the enterprises to put and share information of public interest. This sharing area and the news area have been very useful for the users, e.g. to exchange opinions about some practical aspects of the application and interpretation of laws in particular contexts, thus encouraging a peer-to-peer training strategy.

The Distance Consulting model

Our definition of *Distance Consulting* focuses on the systematic use of ICT-based solutions aimed at supporting enterprises; specifically, the systematic approach foresees the integration of ICT-based *information*, *training* and *communication services* which -in the whole- allow consulting companies to give a *continuous support* to their customers *with cost-effective solutions*, activating *new kinds of consulting* based on specific ICT features [Fig. 1]. Following, we analyze some of the most common ICT-based services that could be included in a Distance Consulting service.

Information services

One of the most impressive feature of the Information Society is the rapid growth of information made available through traditional and new communication technologies (cable TV, Satellite TV, Internet, and so on); this is particularly true in the new economy context, where the information is more and more global, it is highly volatile, it is produced 24 hours a day; in other words, the risk of information overwhelming is really serious.

As a consequence, the Distance Consulting center can support customers through important added-value services concerning the information; amongst the others: brokering of information: search about specific requests in Internet or in traditional material; providing information structured according the enterprises needs: highlighting news, most important topics, deadlines, and so on; this means that the same information could be organized and shown in a personalized way, according to company typology, market sectors, and so on; publishing / broadcasting newsletters on specific economic topics; establishing Web portals.

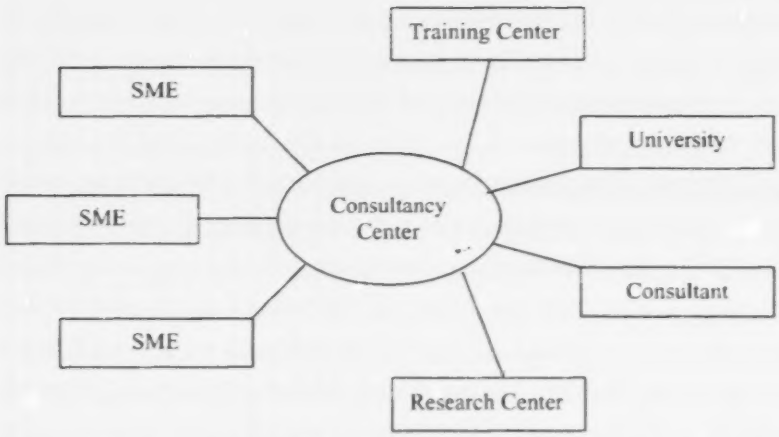

Fig. 2: The Consultancy Center organizes training processes according to the specific needs of the SMEs.

Training services
Nowadays, it is extremely important to provide companies personnel with a continuous training (Lifelong Learning); it should be noted that sometimes it is not easy to distinguish between "traditional" consulting services and training services. On the other hand, ICT provide the Distance Consulting centers with important opportunities to activate training services for their own customers in an innovative way. Amongst the training services a distance consulting center can provide: organization of distance courses and seminars according to customers needs, by also asking enterprises for their specific needs; inviting experts from University, Research Institutes, other enterprises as "speakers" in seminars and courses; activation of "training on job" services, thus supporting enterprises in the application of contents of seminars and courses or supporting enterprises in the use of specific software.

Communication Services
New communication technologies can improve the communication between the subjects of the consulting process and, at the same time, widen the opportunities of relationships between them; as a consequence, the role of the consulting center changes, since it has the opportunity to improve communication with its own customers and, at the same time, it can provide them with the necessary ICT-based communication services. Amongst the services: activating effective electronic communication channels with its customers; widening the number of subjects connected through the network, such as enterprises, banks, universities and research centers, the distance consulting center itself, and so on; establishing communication channels among enterprises belonging to the same area of business and facing specific common problems. In such a way, entrepreneurs and managers have the possibility of discussing on common problems, according to a "peer consulting" model, and they can share experiences. Of course, this is quite possible for very general questions; on the contrary, very specific topics require the direct intervention of the consultant.

Distance Training as part of the *Distance Consulting* process

As told before, Distance Training in SOLARE is part of a more comprehensive model, the Distance Consulting one. As a consequence, the Distance Training process in SOLARE has very specific features:

- there is not always a clear distinction between the Training processes and the Consulting ones;
- as a generalization of the previous point, there are very weak borders between the three aspects of the Distance Consulting model: information services, communication services and training services. Getting access to information can be considered as a specific activity in a training process, and similarly communication services can be effectively used for training purposes;
- it is not a "general-purpose training", as the one offered by many training centers, but it is a training strongly focusing on the specific needs of the beneficiaries;

- the consultant is also the promoter and the organizer of the training services: he knows very well the target of the training process, and can arrange the whole training process [Fig. 2];
- the consultant can analyze the training needs of several enterprises, so organizing courses involving employees and managers from different SMEs.

Some consequences of the features of the Distance Training model in SOLARE as stated before are here reported:

- the training process is strongly tailored to the needs of the beneficiaries, for two reasons: from one hand the consultant knows the company quite in depth; on the other hand the companies have the opportunity to, implicitly or explicitly, declare their own training needs;
- the companies play an active role in fixing the training modules, since the very initial phase of the whole establishment procedure; not only do the companies influence the decision on the content of the training, but also the same methodological and technological aspects of the distance training process: the distance training provider, in strict cooperation with the consultant, can take in account the technological infrastructure and skills of the beneficiary company, as well as the organization aspects in the company (e.g.: the number of people who will follow the distance training course, their position in the company, the time allowed to each person to participate in the training process, and so on), since the consultant knows the company very well, especially if they are very small companies, such as in the SOLARE project. This is very different from traditional training courses offered on the market, which are characterized by general technological and, sometimes, fixed time schedules, and it is up to the participant to the training course to make arrangements in order to be able to get access to the distance training module;
- the role of Training–on–job practices becomes more and more important (and more important than in traditional settings); actually, the training process, as part of the distance consulting approach, is to be brought inside the company, in order to better solve specific problems of the enterprise;
- through the Distance Consulting environment, SMEs get access to a continuous flow of updated and specific information offered by the Consulting center; in such a way, the management of the company receives continuous stimuli to re-qualification, thus undergoing a continuous training process (as far as the access to information is concerned). Generally speaking, Distance Training is a continuous process since it is integrated in a continuous Distance Consulting process;
- the Distance Training process can benefit from the communication services integrated into the Distance Consulting model, and enable company managers to discuss and cooperate on common problems straightforwardly. In such a way, peer-to-peer training strategies are encouraged;
- the evaluation process of the training plays a completely different role as compared to more traditional training contexts: firstly, the consultant has direct control of the training process, since s/he can verify if the training goals have been achieved during his normal professional activities (e.g. by meeting the entrepreneurs or the management of the companies). In addition, evaluation can be supported by the analysis of the communication flow through the discussion groups associated to the training topics (as it will be described in the following session).
- the costs of distance training courses can be optimized, by involving participants from different enterprises with the same needs;
- the consulting center can manage the search of training resources (teachers, on line courses, experts, and so on) starting from the needs of updating and re-qualification of a group of enterprises; the consultant and the teachers can organize new model of training, leading the enterprises towards an exchange of experiences. This aspect is particularly important in putting into practice new know-how acquired during the courses (for example in courses about the application of new laws, when enterprises in the same economic sector could face the same problem to apply the law in their context). In this case the exchange of experiences, with support from the expert, can be extremely effective;
- when the consulting center is also a support for the introduction and the development of ICT in the enterprise, it becomes the training center for ICT. In this case the courses are very specific and flexible at the same time, thus achieving high quality results.

Conclusions

In this paper, we have presented an experience of distance training as part of a Distance Consulting process. Distance Consulting is a new way of providing consulting services, as compared to more traditional approaches; a lot of consultancy services can use information technologies in order to improve their effectiveness; in addition, new

services based on technologies can be developed. In particular training processes, when analysed in the context of a Distance Consulting model, change their traditional role and can benefit form the use of ICT. One of the most significant benefit we have experienced in the SOLARE project has been the possibility of providing consulting and training services in a continuous way by means of: information areas, the exchange of experiences among enterprises facing the same problems, the training on job to put into practice the concepts acquired during the lessons. Moreover, the role of the Distance Consulting centre has become important also for the promotion, organization and delivery of distance training courses; in this way several enterprises with similar needs can share training materials and experts' support, cutting down the costs.

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